

ORNITHOLOGICAL LITERATURE

THE RUFFED GROUSE: ITS LIFE STORY, ECOLOGY AND MANAGEMENT. By Frank C. Edminster. The Macmillan Company, New York, 1947: $6 \times 9\frac{1}{4}$ in., xxvi + 385 pp., 56 plates and 17 figures. \$5.00.

Deservedly one of the most popular of American game birds, the Ruffed Grouse has been the subject of an extensive literature. Its life history, ecology, and management involve problems which have challenged investigators. In no volume previous to this one, however, has the species been treated so fully.

Mr. Edminster's preparation for writing this book includes seven years of intensive grouse study, much of it in the vicinity of Ithaca, New York, and a wider experience with the bird gained in his occupation as biologist with the Soil Conservation Service. His approach is broadly ecological, with special emphasis on food and cover requirements, inter-specific relationships, and management problems. Life history receives proper attention; techniques of grouse propagation are passed over lightly.

The core of the book concerns the ecology of the Ruffed Grouse—its shelter, food, and water requirements; its reactions to weather conditions; its relationships with other species, particularly those which are predatory upon it; its diseases and parasites; its productivity and the factors which influence populations; and finally its relations with man. Other chapters deal with classification, nomenclature, and description; an account of the history of the species in eastern United States; a "biography" of the bird; and a presentation of management problems.

The volume might well have been titled, or subtitled, differently, since virtually all the data and observations presented relate to the northeastern portion of the United States. There is no attempt to make the life history a definitive one, since the study does not apply directly to the species in other portions of its extensive range. Within the limits which the author himself sets, however, the treatment is comprehensive.

Data from many food habits studies are presented in tabular form and are discussed in the text. A list of the twenty-five most important plant foods of the grouse in eastern North America is given. In his discussion of cover requirements Edminster follows the sound principle of treating separately each of the northeastern forest types, and of discussing the grouse's adaptability to each, as well as to the changes which man has brought about.

In considering the puzzling problems of grouse "cycles," Edminster has drawn heavily upon the studies and publications of other investigators, upon Allen, Stoddard, Gross, King, Stoddart, Bump, and many more. He presents evidence of a significant correlation between periods of grouse decline and periods of unfavorable weather. From his study of weather data and of known "lows" in past grouse populations he concludes (page 193):

"If there is any certain connection between adverse weather and grouse decimations, it apparently is tied in with excessive snow in February and March, usually linked with extremely low temperatures, or with low temperatures in June . . . All of the notable grouse declines in New York since 1890, when the weather records began, can be explained by these conditions . . ."

Concerning predation, Edminster writes (page 215): "From all the data on hand, we must conclude that intensive predator control of any type, while it may be markedly effective in reducing nesting loss, will not produce a higher shootable fall population of grouse during years of high abundance. During years of low grouse numbers, the evidence shows that predator control may increase appreciably the fall grouse population. But even under these conditions, with the grouse population increasing anyway, the justification for deliberate predator control is very doubtful."

I confess to a distaste for interpretation of a wild animal's emotions, reactions, and behavior in human terms. Thus in Chapter 3, the author relates the biography of a grouse family in a highly anthropomorphic manner. On page 28, in an account of a young hen grouse's approach to a drumming male, the story runs: "The hen bird's heart was in her throat as she came closer. Then suddenly, as she peered around the end of an old windfall, she beheld the object of her search. It was the grandest grouse she had ever seen. She froze in her tracks." On page 34, the hen's emotions and reactions following mating are described: "As she walked easily along, no doubt daydreaming of the wonderful new world unfolding to her, she would pick up dead leaves and toss them over her shoulder in careless abandon." Interspersed in this fanciful account are the factual discussions of drumming, sex rhythm, incubation, and other important matters.

As is too frequently the case with present-day books, errors in makeup and faulty proof-reading are apparent. Many of the subheads are set in type identical with that of the body of the book though others are in boldface. On pages 88-89 some of the subheads are punctuated with colons, others with periods. On page 36 the scream of the Red-tailed Hawk is spoken of as "renting the soft air." Further, in my copy at least, there are many pages with imperfections or holes in the paper.

To voice another petty prejudice, if an author must use foreign words or phrases (e.g., *lebensraum* on page 44), I would be happy if he did not feel it necessary to translate them for me.

There is constant danger, however, that over-emphasis by a reviewer on matters of style and typographical imperfections will blind the reader to the real merits of a book. Mr. Edminster has produced an excellent volume, the most complete treatment available of this important game species. He has rendered real service to the science of ornithology and to the wildlife management profession. —Maurice Brooks.

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